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Symptom fluctuations, self-esteem and cohesion during group CBT for early psychosis.

Abstract:

Group cohesion has been linked to positive changes in self-esteem and in symptoms during group psychotherapy in people with psychosis. These changes may be linked to changes in symptoms as fluctuations in self-esteem have been linked to symptom fluctuations.

Objective: We aimed to determine the relationship between these three factors, group cohesion, self-esteem and symptoms during group cognitive behaviour therapy for psychosis (GCBTp). We hypothesized that group cohesion would precede changes in symptoms and self-esteem and that improvements in self-esteem would precede

improvements in symptoms. Design: This is an uncontrolled longitudinal study recruiting from a convenience sample within two early psychosis clinics. Methods: 66 individuals from first episode of psychosis treatment programs participated in this study and received 24 sessions of a validated GCBTp protocol. Participants answered a brief questionnaire at the end of each session, measuring their group cohesion, self-esteem, and perception of their symptoms as worse, same or better than usual. Results: Orthogonal polynomial contrasts for time effects were estimated with a mixed model for repeated measures with a random cluster effect and revealed a quartic trend regarding changes in symptoms over the 24 sessions. Self-esteem, symptoms and group cohesion were strongly linked during a given session. Also, self-esteem changes predicted changes in symptoms up to two sessions later, and symptoms changes predicted self-esteem changes at the next session. Group cohesion

preceded improvements in both self-esteem and symptoms; self-esteem also predicted improvements in group cohesion. Conclusion: These results suggest that self-esteem and symptoms influence each other during therapy, with improvements in one leading to improvements in the other. Group cohesion also appears to be an essential prerequisite to positive changes in self-esteem and symptoms during GCBTp.

Practitioner points:

- This study emphasizes the interrelation between self-esteem improvements and symptom improvements, with improvements in one leading to improvements in the other, during group CBT for psychosis.
- Group cohesion, in this study, is a predictor of self-esteem and symptom improvements, suggesting that a special attention should be given to developing a strong alliance and group cohesion early on during CBT for psychosis.

Introduction:

Psychiatric symptoms, such as psychotic symptoms, are known to fluctuate over time, regardless of a stable medication regimen (Hafner, Maurer, & an der Heiden, 2013). Although most investigations studied variations pertain to crises or symptomatic relapses, people with psychotic disorders can experience daily changes in their symptoms as well as important improvements in their psychotic symptoms and in other symptoms of distress (e.g. depression or anxiety) during treatments such as cognitive behaviour therapy for psychosis (Wykes, Steel, Everitt, & Tarrier, 2008). Various recent studies have investigated psychosocial determinants of symptom fluctuations in people with psychosis, looking for instance at daily stressors and negative emotions (Myin-Germeys & van Os, 2007; Wigman et al., 2013), fear or recurrence of relapse (Gumley et al., 2015) as well as self-esteem (Thewissen, Bentall, Lecomte, van Os, & Myin-Germeys, 2008).

Self-esteem has generated a fairly large number of studies investigating links between poor or fluctuating self-esteem and psychotic symptoms, particularly paranoia. A recent review of the literature suggests that poor self-esteem and paranoid delusions are linked in cross-sectional studies, but results from longitudinal studies are not as straight forward (Tiernan, Tracey, & Shannon, 2014). Some studies suggest that low and fluctuating self-esteem could exacerbate or trigger paranoid delusions (Thewissen et al., 2008; Udachina, Varese, Myin-Germeys, & Bentall, 2014). Another study suggested the opposite, that paranoid delusions worsened self-esteem, but only in those with a 'bad me' type of paranoia, i.e. in those who believe they deserve being persecuted because of their flaws or wrongdoings (Udachina,

Varese, Oorschot, Myin-Germeys, & Bentall, 2012). Others still looked at various aspects of self-esteem, either implicit or explicit (Kesting, Mehl, Rief, Lindenmeyer, & Lincoln, 2011) or distinguished positive from negative self-evaluations (Lecomte, Corbiere, & Laisne, 2006) in people with psychosis. Another recent systematic review of the literature (Kesting & Lincoln, 2013) concluded that people with paranoid delusions typically have lower and less stable explicit self-esteem than the general population, particularly for people who believe they deserve being persecuted (i.e. 'bad me' paranoia). They also suggested that people with paranoid delusions could maintain positive self-evaluations and negative self-evaluations simultaneously.

In addition to studies linking poor self-esteem or negative self-concepts, some studies have suggested that poor self-esteem is also linked to auditory hallucinations (Ciufolini et al., 2015; DeVlyder & Hilimire, 2015) negative symptoms (Palmier-Claus, Dunn, Drake, & Lewis, 2011), and delusions in general (Ciufolini et al., 2015), in people with psychosis. However, a limitation of many studies linking self-esteem and psychotic symptoms is that they try to predict the worsening of symptoms and self-esteem in the daily life of people with psychosis or in analogue studies with student populations. Few studies have looked at improvements in self-esteem and overall symptoms, not solely paranoia. The opportunity to test such a hypothesis lies within treatment studies as improvements are likely to occur over relatively short periods of time. For instance, randomized-controlled trials have demonstrated that a brief intervention focusing on positive self-beliefs led to improved self-esteem and decreased paranoia (Freeman et al., 2014) and a self-esteem enhancement group for people with schizophrenia resulted in significant improvements in positive

symptoms of psychosis (Borras et al., 2009; Lecomte et al., 1999). Similarly, group cognitive behaviour therapy for psychosis (GCBTp) has been shown to improve both symptoms (overall and psychotic) and self-esteem (Lecomte et al., 2008; Wykes et al., 2005). Outside of the psychosis literature, a recent study demonstrated that self-esteem improvements during CBT predicted improvements in social anxiety at post-treatment (Gregory & Peters, 2017). Similarly, another study found that positive changes in self-esteem during psychotherapy predicted lower depressive symptoms at follow-up (Dinger, Ehrental, Nikendei, & Schauenburg, 2017). For psychosis, it remains unclear whether symptom and self-esteem improvements are simultaneous and interrelated. Perhaps CBT for psychosis addresses both self-esteem and symptoms differently, or improvements in one (e.g. self-esteem) lead to improvements in the other (e.g. symptoms).

A recent process study on GCBTp (Lecomte, Leclerc, Wykes, Nicole, & Abdel Baki, 2015) revealed that improvements in positive symptoms and overall psychiatric symptoms were strongly linked to group cohesion (namely finding positive qualities in participants and compatibility with therapists) and alliance with the therapists. Similarly, improvements in self-esteem were linked to an aspect of group cohesion, namely finding positive qualities in the other participants in the group. Given that positive self-esteem, positive symptoms of psychosis as well as total symptoms measured by the Brief Psychiatric Rating Scale-Expanded version (BPRS-E; Ventura, Green, Shaner, & Liberman, 1993) significantly improved between baseline and post-treatment follow-ups, these results suggest that improvements in self-esteem might be linked to improvements in symptoms during CBT for psychosis. These results also suggest that interpersonal factors, such as group cohesion,

play an important role in the changes observed in self-esteem and in symptoms during therapy (Lecomte et al., 2015). Yet, it is not clear whether symptomatic or self-esteem improvements predict the improved rating of the group cohesion or if improved group cohesion leads to improved self-esteem and symptoms.

To date, temporal links between different domains in people with psychosis, such as emotions, self-esteem and specific symptoms, have mostly been investigated with the experience sampling method (Kramer et al., 2014; Myin-Germeys & van Os, 2007; Thewissen et al., 2008; Thewissen et al., 2011; Udachina et al., 2014). The method of experience sampling method (Csikszentmihalyi, 1987) is usually managed over one week and would be too taxing to cover the experiences of individuals over longer periods of time. However, it is possible to investigate change overtime within a treatment, without over burdening participants, by using a brief assessment, once, at each treatment session. The objective of this study is to determine temporal links between self-esteem, overall symptoms and group cohesion in people with psychosis receiving 24 sessions of GCBTp. Given the scientific literature, we hypothesized that: 1) changes in self-esteem during GCBTp would precede changes in symptoms; and 2) group cohesion would precede improvements in self-esteem and in symptoms.

Design:

This is an uncontrolled longitudinal study recruiting from a convenience sample within two early psychosis clinics in Montreal, Canada. The participants were given 24 sessions of GCBTp over the course of three months, and were asked to answer the QuickLL (Lecomte &

Leclerc, 2004), a brief assessment of self-esteem, group cohesion and symptoms, at the end of each session. This study was part of a larger study on therapeutic processes in GCBTp (for the results, see Lecomte et al. (2015)).

Method:

Participants

A total of 66 individuals with early psychosis were recruited from the early psychosis clinics of the *Institut Universitaire de Santé Mentale de Montréal* (IUSMM) and of the *Centre Hospitalier Universitaire de Montréal* (CHUM), in Montreal, Canada. The study was approved by both hospitals' research and ethics boards. Informed consent was carefully observed, with the use of a true/false questionnaire to ensure the understanding of the study prior to signing the consent form. Inclusion criteria were the following: presenting persistent or sporadic psychotic symptoms (even with prescribed antipsychotic medication), receiving services from a participating first episode of psychosis program as an outpatient, and having the ability to read and write in French or English. Participants were on average 26 years old (SD=6), mostly male (70%), Caucasian (73%) and had completed on average 12 years of education (SD=3.2). The two first episode clinics offer services to their clients for up to five years; as a result, the median number of psychiatric hospitalizations was 2 (mode=1, SD=1.8). Chart review diagnoses revealed that 60% (n=40) were diagnosed with schizophrenia, 18% (n=12) with schizoaffective disorder, 15% (n=10) with psychosis not otherwise specified and 5% (n=4) with depression with psychotic symptoms. Overall, 97% of the sample mentioned taking their medication as prescribed (N=64), 35% (N=22) for more than 12 months and 20% (n=13) for less than 3 months.

Measures

The QuickLL (Lecomte & Leclerc, 2004) is a brief questionnaire containing 14 items, rated on a 3-point scale (worse than usual, same as usual, better than usual), and offering a snapshot of the participant at each session regarding his assessment of the group cohesion, optimism for the future, ability to meet personal goals, self-esteem, current presence of mood/anxiety, and psychotic symptoms. This brief self-report questionnaire has been used previously by our team to assess variations across sessions with people with severe mental illness (Lecomte et al., 2015) and has demonstrated convergent validity as it correlates with validated measures used concurrently (namely with the Cohesion scale (Piper, Marrache, Lacroix, Richardson, & Jones, 1983), $r(24)=0.53$, $p=0.025$). As in experience sampling studies, the QuickLL was meant to be brief and to be answered spontaneously. For the purpose of this manuscript, only the self-esteem (right now I hate/feel same as usual/like myself, others hate/are same as usual/like me), group cohesion (other members are not nice/ ok/ helpful, therapist not helpful/ok/helpful, the group therapy is making things worse/doesn't change anything/better), current overall symptoms including: anxiety (nervous/same/calm), depression (sad/same/happy), irritability (angry, same, peaceful), paranoia (less trustful/same/trustful), social isolation (lonely, same/have many friends), hallucinations (more/same/less voices) and delusions (more/same/less distressful thoughts) were used in the analyses.

Treatment: Participants received 24 sessions of a validated GCBT for psychosis protocol (Lecomte, Leclerc & Wykes, 2001). The GCBT for psychosis manual has been validated in a randomized controlled trial with individuals with early psychosis (Lecomte et al., 2008; 2012) and is now being used in over 13 countries. The participants received two hourly

sessions per week, delivered by two co-therapists, during twelve weeks. For a description of the GCBT for psychosis manual see (Lecomte, Leclerc, & Wykes, 2016).

Analyses:

All analyses were conducted with SAS, version 9.4, using alpha signification level of .05. In order to verify the internal consistency of the QuickLL with this sample, the alphas were calculated for the group cohesion (3 items), the overall symptoms (7 items), and self-esteem (2 items). Means and standard errors for each scale, as well as for each symptom item, were graphed in order to determine if specific patterns of change could be detected. A mixed linear model using orthogonal polynomial contrasts estimated for repeated time effects and random cohort effects was conducted in order to determine if a tendency or trend could be found regarding how each variable changed over time. This analysis was chosen because it takes into consideration the fact that participants were in different therapeutic groups and it controls for the cohort effects. This analysis also controls for the fact that participants answered the same questions repetitively resulting in an intra-subject dependency across observations. A similar mixed linear model for repeated measures and random cohort effects was also used to look at the predictive value of a specific variable during the present and past two sessions on a current variable (in order to determine if for instance self-esteem change predicts symptom change).

Results:

Internal consistency for the three scales was adequate, with the alphas for the group cohesion (alpha = 0.73) and the symptoms scale (0.75) being better than for the self-esteem

scale ($\alpha = 0.67$), which is not surprising given that the latter included fewer items. Table 1 presents a sample (i.e. five time-points) of the means and standard deviations for the self-esteem and group cohesion scales, as well as the symptoms items and scale for the QuickLL. Figures 1 and 2 illustrate means and standard deviations for the participants for each session, for the self-esteem, and symptoms scales. As can be seen, the improvements in symptoms overall and self-esteem are not clearly linear. The mixed model revealed that change overtime for symptoms in general followed a quartic trend ($F(9, 859) = 8.35$, $p = 0.004$), whereas self-esteem, group cohesion, as well as the individual symptom items did not reveal a significant change trend. Only the anxiety ($F(1, 856) = 12.74$, $p = 0.0004$) and paranoia ($F(1, 845) = 5.89$, $p = 0.015$) items improved in a linear fashion over time.

Table 2 presents the mixed model coefficients and significant levels for the links between overall symptoms, self-esteem, and group cohesion over time (for the 24 sessions). As can be seen, self-esteem and symptoms are significantly linked, and so is group cohesion with self-esteem and with overall symptoms.

Finally, Table 3 details the repeated measure mixed model using the current and past two sessions (excluding therefore the two first sessions of the therapy) and reveals that self-esteem and overall symptoms were significantly linked during a given session ($p < 0.0001$), with an improvement in self-esteem being linked to an improvement in symptoms two sessions later ($p < 0.0001$) and symptom improvements being linked to improvements in self-esteem at the next session ($p = 0.0002$) as well as two sessions later, although the coefficient and level of significance is smaller ($p = 0.035$).

As for the link between group cohesion and symptom and self-esteem improvements, group cohesion did change with symptoms during the same session ($p < 0.0001$), and predicted symptom improvements two sessions later ($p = 0.021$), whereas the opposite prediction (symptoms predicting group cohesion) was not found ($p > 0.11$). Group cohesion also changed with self-esteem during the same session ($p < 0.0001$), with group cohesion predicting self-esteem at the next two sessions ($p < .0001$ for next session, and $p = .0007$ for two sessions later), and self-esteem predicting group cohesion two sessions later ($p = .004$) (see Table 3).

Discussion:

Self-esteem and symptoms vary from one session to the next during GCBTp, and do not follow a straight linear trend. The figure portraying the session-to-session changes suggest that although the assessments are mostly positive (between 'same' and 'better than usual'), some sessions appear to be experienced more positively than others in terms of self-esteem and symptoms. This supports findings from experience sampling studies suggesting daily variations in self-esteem and symptoms (Thewissen et al., 2008; Udachina et al., 2014) but also reflect a clinical reality, whereby some sessions in CBT can be experienced as more confronting and others as more rewarding.

Our results also support previous studies and theoretical models of psychosis suggesting that self-esteem and psychiatric symptoms are linked. Studies such as Freeman and colleagues (2014) and Lecomte and colleagues (1999) suggest that self-esteem

improvements precede improvements in positive symptoms. Furthermore, Garety and colleagues (2001) as well as Freeman and colleagues (2002) both present self-beliefs and self-esteem as causal elements in the development of delusional (particularly paranoid) beliefs. In our study, a significant link was found between both concepts during the same session as well as in following sessions, predicting change in a loop-like process. This somewhat contradicted our hypothesis that self-esteem change would precede symptom change – suggesting that self-esteem and symptoms are related but the relationship is not as straightforward as expected. Indeed, during GCBTp, an improvement in self-esteem decreased the person's symptoms a week later whereas improved symptoms positively affected self-esteem a few days later. These results can be understood by Bednar and Peterson's model of self-esteem (Bednar, 1995) whereby the personal response style to threat (i.e. coping or symptoms) will be self-appraised as either positive or negative and generate an internal feedback of approval (or disapproval), resulting in a higher or lower self-esteem. This self-esteem level will in turn influence the person's perceived psychological threat (i.e. stressors) and subsequent response to it (i.e. coping or symptoms). This internal feedback loop of self-esteem development is also influenced by external or social feedback, if it is considered credible.

Our results further support this self-esteem model since improved group cohesion, as hypothesized, predicted improvements in self-esteem and in symptoms. Group cohesion includes both the alliance with the therapist and the perception of the group and its members, which can be considered strong credible external/ social feedback. According to Kesting and Lincoln (2013), individuals with psychosis, particularly with paranoid

delusions, often have dysfunctional self-schemas that are based on the acceptance by others. Positive external feedback from a group of peers and therapists that they have learned to appreciate can therefore have a significant impact on their self-esteem and symptoms. People who feel good about themselves following an increase in self-esteem appear to also assess more positively their group of peers in therapy a week later. But, in our study, having fewer symptoms does not predict improved group cohesion later on. Essentially this suggests a loop between self-esteem and symptoms and another between external feedback and self-esteem, but a one-directional link between group cohesion and symptoms.

These group cohesion results also emphasize the importance of engagement and the development of trusting relationships within GCBTp. Unfortunately, many documented CBT for psychosis groups tend to be very brief, with a strong psychoeducational focus, and do not maximize the development of group cohesion. Group cohesion not only necessitates time for participants and therapists to learn to appreciate and trust each other, but also implies an engagement phase during which the topics addressed in the group are perceived as unifying, normalizing and non-threatening. As seen here and in another study (Lecomte et al., 2015), group cohesion and therapeutic alliance are essential determinants of GCBTp outcomes since they create the needed bond and trust to encourage belief and behavior modification in participants. Similarly, Goldsmith and colleagues (2015) found that the therapeutic alliance was predictive of positive outcomes in people with early psychosis, and that poor alliance would predict worse outcomes. This further emphasizes that quality CBT

for psychosis implies developing a good alliance and cohesion (for groups) as well as being able to use CBT techniques and strategies.

The results of this study have a number of limitations. Our study was conducted with a convenience sample of individuals with early psychosis receiving services in first episode of psychosis clinics– perhaps the results would differ with individuals with a longer psychiatric history, who receive services in a different setting or who refrain from participating in a study. Younger individuals with psychosis might be more sensitive to the impact of group cohesion, and might also experience more unstable symptoms and fluctuating self-esteem. Yet, studies with older individuals, in experience sampling studies for instance (Thewissen et al., 2008; Udachina et al., 2014) also found similar fluctuations. Our main measure, the QuickLL, could be perceived as a limit given that each item is rated on a three-point scale, limiting variance, and that the measure is clearly subjective and has not been thoroughly validated. The three-point rating is not only brief to answer but forces participants to position themselves as worse, the same, or better than usual. Given that the goal was not to quantify the intensity or severity of each variable but rather to determine if these variables vary across sessions, we believe a wider variance in the scale is not needed. As for the validity, the QuickLL is not yet validated but has shown to be correlated to validated measures of similar constructs (such as cohesion). Furthermore, most experience sampling or journal studies use brief non-validated researcher-created tools to measure various concepts, as was done here. The subscales used did prove to be reliable, with acceptable alphas, considering some subscales only had two items. Although our sample size is small, the number of observations recorded is large (over 500 for any given analysis)

and has enabled us to not only look at links but to consider the direction of the links. One of the limits is that participants did not always fill-out the QuickLL (by choice or because they missed a session) and therefore some analyses were at times based on half of the potential observations. Should these missing observations not be missing at random, as is assumed by our analyses, the results presented here could be biased.

Conclusion

Our study suggests that symptoms in general, including paranoia, as well as delusions, voices, anxiety and depression, influence self-esteem and vice-versa. Considering Bednar and Peterson's model of self-esteem (Bednar, 1995), it is not surprising that symptoms in general are linked to self-esteem. People with psychosis often experience a variety of symptoms, which is why group CBT for psychosis does not only focus on alleviating psychotic symptoms but rather on helping participants with the symptoms and issues they present (Lecomte et al., 2016). CBT for psychosis could also work more specifically on improving self-esteem directly, not only via symptom reduction and increased coping strategies, to maximize its effects. Similarly, external feedback such as the therapeutic alliance and group cohesion warrant more attention in treatment studies, given their potential impact on self-esteem and symptoms.

References

- Bednar, R. L. P., Scott R. (1995). Self-esteem: Paradoxes and innovations in clinical theory and practice (2nd ed) (pp. 131). Washington, DC APA Press.
- Borras, L., Boucherie, M., Mohr, S., Lecomte, T., Perroud, N., & Huguelet, P. (2009). Increasing self-esteem: efficacy of a group intervention for individuals with severe mental disorders. *Eur Psychiatry*, 24(5), 307-316. doi:10.1016/j.eurpsy.2009.01.003
- Ciufolini, S., Morgan, C., Morgan, K., Fearon, P., Boydell, J., Hutchinson, G., . . . Dazzan, P. (2015). Self esteem and self agency in first episode psychosis: Ethnic variation and relationship with clinical presentation. *Psychiatry Research*, 227, 213-218. doi: <http://dx.doi.org/10.1016/j.psychres.2015.03.030>
- Csikszentmihalyi, M, L. R. (1987). Validity and reliability of the experience-sampling method. *J Nerv Ment Dis*, 175(9), 526-536.
- DeVylder, J. E., & Hilimire, M. R. (2015). Suicide Risk, Stress Sensitivity, and Self-Esteem among Young Adults Reporting Auditory Hallucinations. *Health and Social Work*, 40(3), 175-181. doi: <https://doi.org/10.1093/hsw/hlv037>
- Dinger, U., Ehrental, J. C., Nikendei, C., & Schauenburg, H. (2017). Change in self-esteem predicts depressive symptoms at follow-up after intensive multimodal psychotherapy for major depression. *Clinical Psychology & Psychotherapy*. doi:10.1002/cpp.2067.
- Freeman, D., Garety, P. A., Kuipers, E., Fowler, D., & Bebbington, P. E. (2002). A cognitive model of persecutory delusions. *British Journal of Clinical Psychology and Psychotherapy*, 41, 331-347.
- Freeman, D., Pugh, K., Dunn, G., Evans, N., Sheaves, B., Waite, F., . . . Fowler, D. (2014). An early Phase II randomised controlled trial testing the effect on persecutory delusions of using CBT to reduce negative cognitions about the self: The potential benefits of enhancing self confidence. *Schizophrenia Research*, 160(1), 186-192. doi:<http://doi.org/10.1016/j.schres.2014.10.038>
- Garety, P. A., Kuipers, E., Fowler, D., Freeman, D., & Bebbington, P. (2001). A cognitive model of the positive symptoms of psychosis. *Psychological Medicine*, 31, 189-195.
- Goldsmith, L. P., Lewis, S. W., Dunn, G., & Bentall, R. P. (2015). Psychological treatments for early psychosis can be beneficial or harmful, depending on the therapeutic alliance: an instrumental variable analysis. *Psychological Medicine*, 45(11), 2365-2373.
- Gregory, B., & Peters, L. (2017). Changes in the self during cognitive behavioural therapy for social anxiety disorder: A systematic review. *Clinical Psychology Review*, 52, 1-18.
- Gumley, A. I., MacBeth, A., Reilly, J. D., O'Grady, M., White, R. G., McLeod, H., . . . Power, K. G. (2015). Fear of recurrence: Results of a randomized trial of relapse detection in schizophrenia. *British Journal of Clinical Psychology*, 54(1), 49-62. doi:<http://dx.doi.org/10.1111/bjc.12060>
- Hafner, H., Maurer, K., & an der Heiden, W. (2013). ABC schizophrenia study: An overview of results since 1996. *Social Psychiatry and Psychiatric Epidemiology*, 48(7), 1021-1031. doi:<http://dx.doi.org/10.1007/s00127-013-0700-4>

- Kesting, M.-L., & Lincoln, T. M. (2013). The relevance of self-esteem and self-schemas to persecutory delusions: A systematic review. *Comprehensive Psychiatry*, 54(7), 766-789. doi:<http://dx.doi.org/10.1016/j.comppsy.2013.03.002>
- Kesting, M.-L., Mehl, S., Rief, W., Lindenmeyer, J., & Lincoln, T. M. (2011). When paranoia fails to enhance self-esteem: Explicit and implicit self-esteem and its discrepancy in patients with persecutory delusions compared to depressed and healthy controls. *Psychiatry Research*, 186(2-3), 197-202. doi:<http://dx.doi.org/10.1016/j.psychres.2010.08.036>
- Kramer, I., Simons, C. J. P., Wigman, J. T. W., Collip, D., Jacobs, N., Derom, C., . . . Wichers, M. (2014). Time-Lagged Moment-to-Moment Interplay Between Negative Affect and Paranoia: New Insights in the Affective Pathway to Psychosis. *Schizophrenia Bulletin*, 40(2), 278-286. doi:10.1093/schbul/sbs194
- Lecomte, T., Corbiere, M., & Laisne, F. (2006). Investigating self-esteem in individuals with schizophrenia: relevance of the Self-Esteem Rating Scale-Short Form. *Psychiatry Res*, 143(1), 99-108. doi:10.1016/j.psychres.2005.08.019
- Lecomte, T., Cyr, M., Lesage, A. D., Wilde, J., Leclerc, C., & Ricard, N. (1999). Efficacy of a self-esteem module in the empowerment of individuals with schizophrenia. *J Nerv Ment Dis*, 187(7), 406-413.
- Lecomte, T., & Leclerc, C. (2004). *QuickLL - A brief measure of group process*. Retrieved from Montreal:
- Lecomte, T., Leclerc, C., Corbiere, M., Wykes, T., Wallace, C. J., & Spidel, A. (2008). Group cognitive behavior therapy or social skills training for individuals with a recent onset of psychosis? Results of a randomized controlled trial. *J Nerv Ment Dis*, 196(12), 866-875. doi:10.1097/NMD.0b013e31818ee231
- Lecomte, T., Leclerc, C., & Wykes, T. (2016). *Group CBT for psychosis – A guidebook for clinicians* New York: Oxford University Press.
- Lecomte, T., Leclerc, C., Wykes, T., Nicole, L., & Abdel Baki, A. (2015). Understanding process in group cognitive behaviour therapy for psychosis. *Psychology and Psychotherapy: Theory, Research and Practice*, 88(2), 163-177.
- Myin-Germeys, I., & van Os, J. (2007). Stress-reactivity in psychosis: Evidence for an affective pathway to psychosis. *Clinical Psychology Review*, 27(4), 409-424. doi:<http://dx.doi.org/10.1016/j.cpr.2006.09.005>
- Palmier-Claus, J., Dunn, G., Drake, R., & Lewis, S. (2011). The negative and positive self: a longitudinal study examining self-esteem, paranoia and negative symptoms in individuals with first-episode psychosis. *Early Intervention in Psychiatry*, 5, 150-155. doi:10.1111/j.1751-7893.2010.00250.x
- Piper, W. E., Marrache, M., Lacroix, R., Richardson, A. M., & Jones, B. D. (1983). Cohesion as a basic bond in groups. *Human Relations*, 36, 93-108. doi:10.1177/001872678303600201
- Thewissen, V., Bentall, R. P., Lecomte, T., van Os, J., & Myin-Germeys, I. (2008). Fluctuations in self-esteem and paranoia in the context of daily life. *J Abnorm Psychol*, 117(1), 143-153. doi:10.1037/0021-843x.117.1.143
- Thewissen, V., Bentall, R. P., Oorschot, M., à Campo, J., van Lierop, T., van Os, J., & Myin-Germeys, I. (2011). Emotions, self-esteem, and paranoid episodes: An experience sampling study. *British Journal of Clinical Psychology*, 50(2), 178-195. doi:10.1348/014466510X508677

- Tiernan, B., Tracey, R., & Shannon, C. (2014). Paranoia and self-concepts in psychosis: A systematic review of the literature. *Psychiatry Research*, 216, 303-313.
- Udachina, A., Varese, F., Myin-Germeys, I., & Bentall, R. P. (2014). The role of experiential avoidance in paranoid delusions: An experience sampling study. *British Journal of Clinical Psychology*, 53(4), 422-432. doi:<http://dx.doi.org/10.1111/bjc.12054>
- Udachina, A., Varese, F., Oorschot, M., Myin-Germeys, I., & Bentall, R. P. (2012). Dynamics of self-esteem in "poor-me" and "bad-me" paranoia. *Journal of Nervous and Mental Disease*, 200(9), 777-783. doi:<http://dx.doi.org/10.1097/NMD.0b013e318266ba57>
- Ventura, J., Green, M. F., Shaner, A., & Liberman, R. P. (1993). Training and quality assurance with the Brief Psychiatric Rating Scale. *International Journal of Methods in Psychiatric Research*, 3, 221-244.
- Wigman, J. T., Collip, D., Wichers, M., Delespaul, P., Derom, C., Thiery, E., . . . van Os, J. (2013). Altered transfer of momentary mental states (ATOMS) as the basic unit of psychosis liability in interaction with environment and emotions. *PLoS One*, 8(2), e54653. doi:10.1371/journal.pone.0054653
- Wykes, T., Hayward, P., Thomas, N., Green, N., Surguladze, S., Fannon, D., & Landau, S. (2005). What are the effects of group cognitive behaviour therapy for voices? A randomised control trial. *Schizophrenia Research*, 77(2-3), 201-210. doi:<http://dx.doi.org/10.1016/j.schres.2005.03.013>
- Wykes, T., Steel, C., Everitt, B., & Tarrier, N. (2008). Cognitive Behavior Therapy for Schizophrenia: Effect Sizes, Clinical Models, and Methodological Rigor. *Schizophrenia Bulletin*, 34(3), 523-537. doi:10.1093/schbul/sbm114

Table 1: Means and standard deviations for the symptom items, symptom, self-esteem and group cohesion scales of the QuickLL for sessions 1, 6, 12, 18 and 24 (scale 1 to 3 ; higher score= feeling better) N=66 participants.

	Mean (SD) session 1 (N=48/66)	Mean (SD) session 6 (N=45/66)	Mean (SD) session 12 (N=37/66)	Mean (SD) session 18 (N=29/66)	Mean (SD) session 24 (N=31/66)
Symptom total	2.23 (0.42)	2.38 (0.38)	2.32 (0.43)	2.32 (0.42)	2.34 (0.51)
Anxiety	2.04 (0.78)	2.33 (0.76)	2.16 (0.73)	2.33 (0.66)	2.26 (0.77)
Depression	2.12 (0.56)	2.30 (0.55)	2.23 (0.59)	2.13 (0.63)	2.32 (0.64)
Delusions	2.36 (0.69)	2.50 (0.59)	2.42 (0.56)	2.32 (0.55)	2.52 (0.63)
Voices	2.46 (0.51)	2.49 (0.51)	2.47 (0.57)	2.52 (0.59)	2.35 (0.51)
Paranoia	2.15 (0.59)	2.33 (0.47)	2.35 (0.58)	2.31 (0.47)	2.34 (0.48)
Self-esteem	2.29 (0.46)	2.40 (0.51)	2.40 (0.44)	2.38 (0.49)	2.32 (0.48)

Group cohesion	2.27 (0.38)	2.54 (0.44)	2.54 (0.40)	2.48 (0.40)	2.62 (0.48)
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Table 2: Relation between self-esteem and overall symptoms, as well as between group cohesion and self-esteem and group cohesion and overall symptoms.

	Coefficient*	S.E.	statistic	p value	N (max: 1584)
Self-esteem and overall symptoms	0.51	0.03	t(849)=15,27	<0,0001	881
Group cohesion and self-esteem	0.29	0.04	t(849)=7,44	<0,0001	881
Group cohesion and overall symptoms	0.27	0.03	t(858)=9.49	<0,0001	890

* Based on a mixed-model for repeated measures adjusted for time and cohort effects. S.E. = standard error.

Table 3: Predictors of changes in self-esteem, symptoms and group cohesion for the present and past two sessions

Predictor	Variable explained	Coefficient * (p value) current session	Coefficient* (p value) previous session	Coefficient* (p value) two sessions before	N (max=1452)
Symptoms	Self-esteem	0.413 (<0.0001)	0.143 (0.0002)	0.084 (0.0349)	506
	S.E.	0.038	0.038	0.039	
	Statistic	t(474)=10.70	t(474)=3.70	t(474)=2.12	
Self-esteem	Symptoms	0.526 (<0.0001)	0.103 (0.0483)	0.199 (<0.0001)	510
	S.E.	0.051	0.052	0.050	
	Statistic	t(478)=10.37	t(478)=1.98	t(478)=3.96	
Symptoms	Group cohesion	0.342 (<0.0001)	0.089 (0.1179)	0.082 (0.1284)	514
	S.E.	0.053	0.056	0.054	
	Statistic	t(482)=6.40	t(482)=1.57	t(482)=1.52	
Group cohesion	Symptoms	0.353 (<0.0001)	0.094 (0.0700)	0.116 (0.0209)	514

	S.E.	0.051	0.052	0.050	
	Statistic	t(482)=6.92	t(482)=1.82	t(482)=0.02	
Self-esteem	Group cohesion	0.353	0.058	0.178	510
		(<0.0001)	(0.3757)	(0.0040)	
	S.E.	0.062	0.065	0.062	
	Statistic	t(478)=5.68	t(478)=0.089	t(478)=2.90	
Group cohesion	Self-esteem	0.212	0.195	0.146	506
		(<0.0001)	(<0.0001)	(0.0007)	
	S.E.	0.041	0.041	0.043	
	Statistic	t(474)=5.13	t(474)=4.69	t(474)=3.43	

* Based on a mixed-model for repeated measures adjusted for time and cohort effects. S.E. = standard error.

Figure 1: Self-esteem mean variations across 24 sessions of group CBT for psychosis

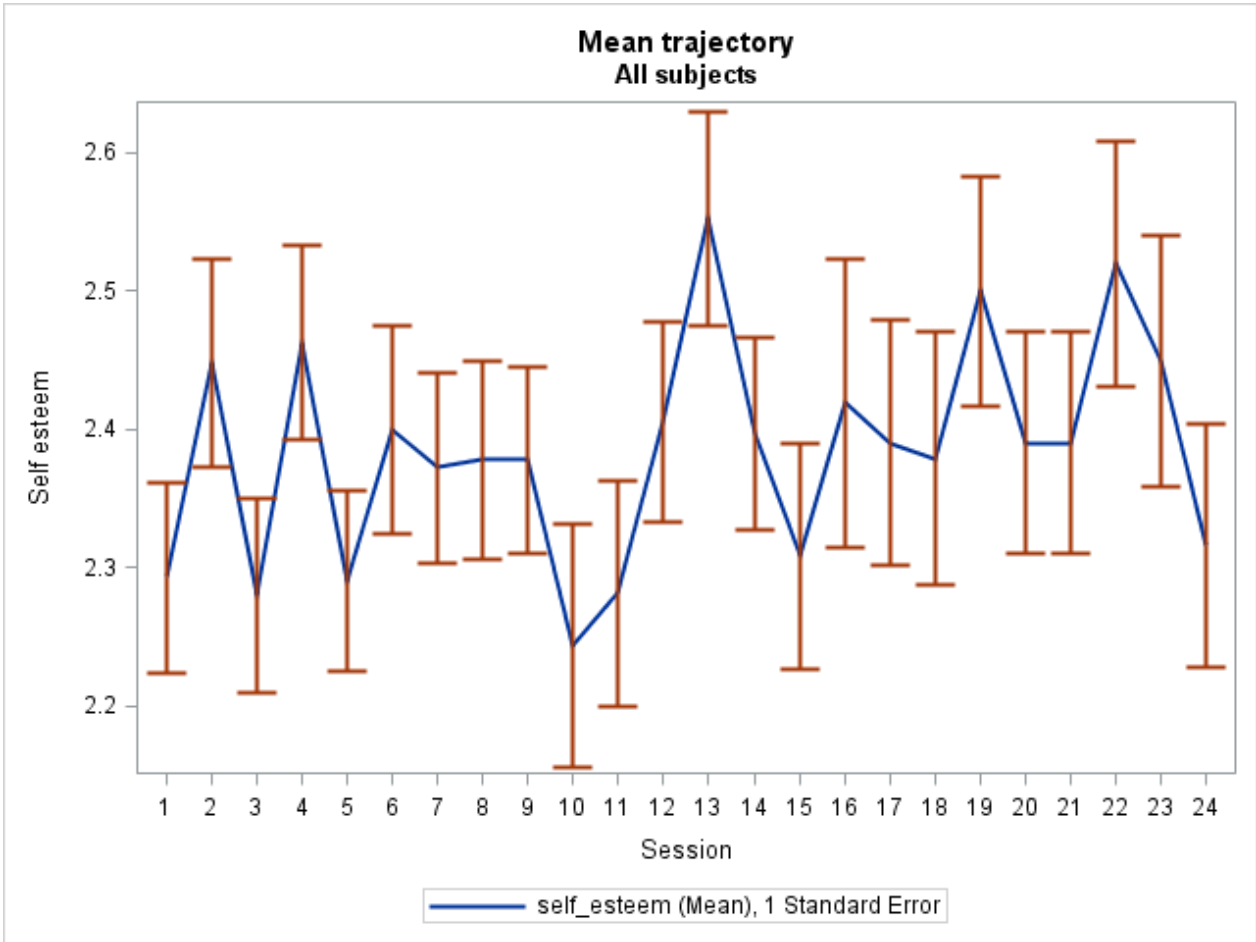


Figure 1

Figure 2 Overall symptom mean variations across 24 sessions of group CBT for psychosis

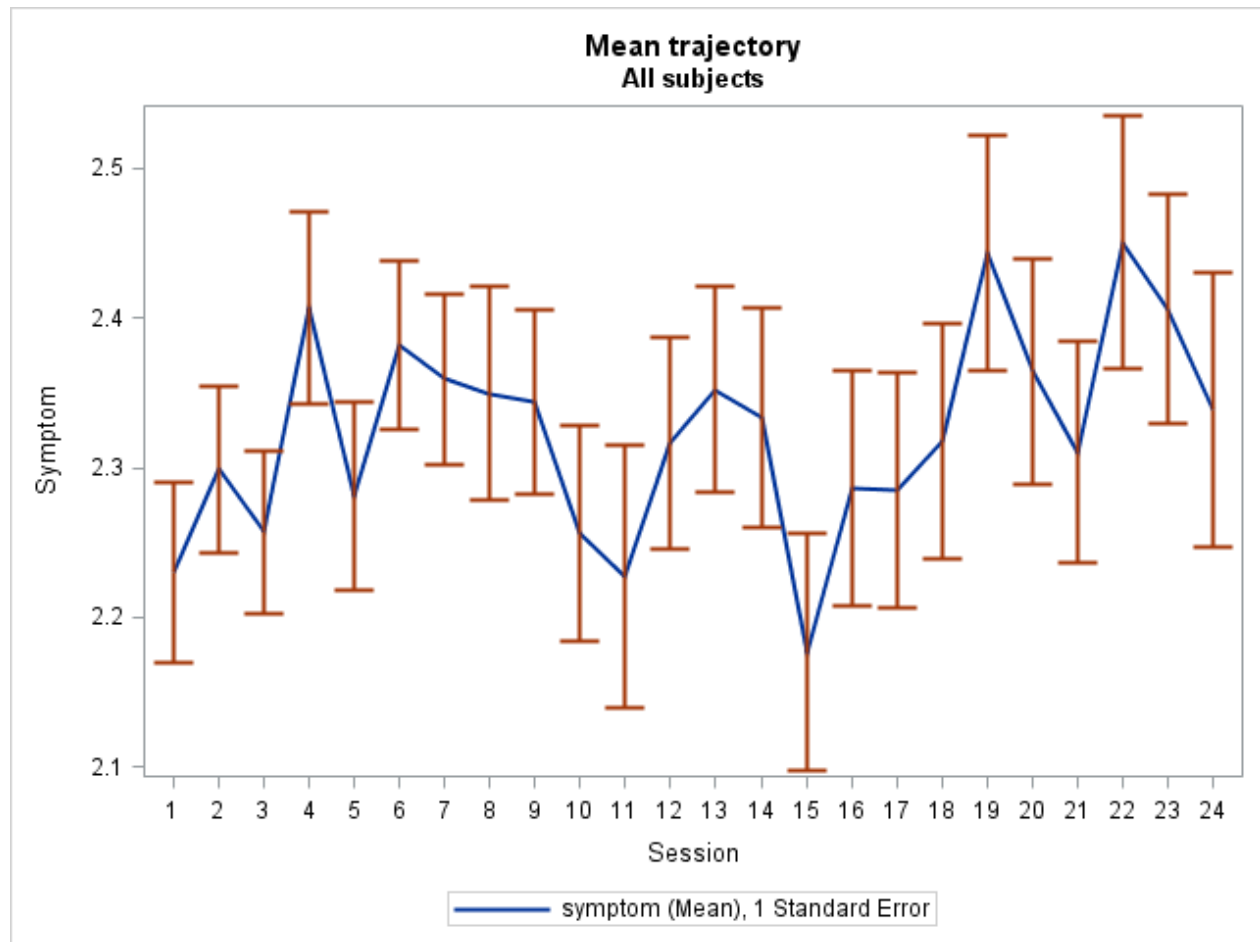


Figure 2